

SEQUENCE LISTING

<110> El Tayar, Nabil
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He, Chaomei

<120> Novel Glycoproteins and Methods of Use Thereof

<130> 20993-003

<140> 09/927,876

<141> 2001-08-10

<150> 60/225,035

<151> 2000-08-11

<150> 60/202,724

<151> 2000-05-08

<160> 107

<170> PatentIn Ver. 2.1

<210> 1

<211> 447

<212> DNA

<213> Homo sapiens

<400> 1

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gtctgtacct acaacgagac caaacagggtg actgtcaagc tgcccaactg tgccccggga 360
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<210> 2

<211> 129

<212> PRT

<213> Homo sapiens

<400> 2

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Met Lys Leu Ala Phe Leu Leu Leu Gly Pro Met Ala Leu Leu Leu Leu
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Ala Gly Tyr Gly Cys Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr Phe
      20              25              30

Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro Gly
      35              40              45

Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys Glu
      50              55              60

Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His
65              70              75              80

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Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu Pro
85 90 95

Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala Ile
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Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu Thr
115 120 125

Ile

<210> 3

<211> 381

<212> DNA

<213> Xenopus sp.

<400> 3

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ttcacattct	tagcaaagaa	acctggctgc	agaggtctgc	gtgtgactac	tgatgcctgc	180
tggggggcgct	gtgagacctg	tgagaagcca	tccctagatc	ctccgtacat	agaagcccac	240
cacagagtct	gcatttacaa	tgaaactaaa	ctgggttactg	taatactgcc	aaactgcagc	300
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<210> 4

<211> 127

<212> PRT

<213> Xenopus sp.

<400> 4

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20 25 30

Phe Ile Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro
35 40 45

Gly Cys Arg Gly Leu Arg Val Thr Thr Asp Ala Cys Trp Gly Arg Cys
50 55 60

Glu Thr Cys Glu Lys Pro Ser Leu Asp Pro Pro Tyr Ile Glu Ala His
65 70 75 80

His .Arg Val Cys Thr Tyr Asn Glu Thr Lys Leu Val Thr Val Ile Leu
85 90 95

Leu Pro Asn Cys Ser Pro Asp Ile Asp Pro Phe Phe Thr Tyr Pro Val
100 105 110

Ala Ile Arg Cys Asp Cys Met Trp Ser Thr Ser Thr Thr Glu Cys
115 120 125

<210> 5

<211> 5

<212> PRT
 <213> Homo sapiens

<400> 5
 Trp Glu Lys Pro Ile
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<210> 6
 <211> 141
 <212> PRT
 <213> Homo sapiens

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 1 5 10 15
 Gly Ala Trp Ala Ser Arg Glu Pro Leu Arg Pro Trp Cys His Pro Ile
 20 25 30
 Asn Ala Ile Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr
 35 40 45
 Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Met Arg Val
 50 55 60
 Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val Cys Thr Tyr Arg
 65 70 75 80
 Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val
 85 90 95
 Asp Pro Val Val Ser Phe Pro Val Ala Leu Ser Cys Arg Cys Gly Pro
 100 105 110
 Cys Arg Arg Ser Thr Ser Asp Cys Gly Gly Pro Lys Asp His Pro Leu
 115 120 125
 Thr Cys Asp His Pro Gln Leu Ser Gly Leu Leu Phe Leu
 130 135 140

<210> 7
 <211> 129
 <212> PRT
 <213> Homo sapiens

<400> 7
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 1 5 10 15
 Cys Cys Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys
 20 25 30
 Glu Glu Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly
 35 40 45
 Tyr Cys Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys
 50 55 60
 Ile Gln Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg

65				70				75				80			
Val	Pro	Gly	Cys	Ala	His	His	Ala	Asp	Ser	Leu	Tyr	Thr	Tyr	Pro	Val
				85				90				95			
Ala	Thr	Gln	Cys	His	Cys	Gly	Lys	Cys	Asp	Ser	Asp	Ser	Thr	Asp	Cys
				100				105				110			
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<210> 8
<211> 165
<212> PRT
<213> Homo sapiens
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Gly Thr Trp Ala Ser Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile
      20              25              30

Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr
      35              40              45

Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val
      50              55              60

Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg
  65              70              75              80

Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val
      85              90              95

Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu
      100              105              110

Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu
      115              120              125

Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro
      130              135              140

Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
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Pro Ile Leu Pro Gln
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<210> 9
<211> 138
<212> PRT
<213> Homo sapiens
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<400> 9

Met Thr Ala Leu Phe Leu Met Ser Met Leu Phe Gly Leu Ala Cys Gly
 1 5 10 15

Gln Ala Met Ser Phe Cys Ile Pro Thr Glu Tyr Thr Met His Ile Glu
 20 25 30

Arg Arg Glu Cys Ala Tyr Cys Leu Thr Ile Asn Thr Thr Ile Cys Ala
 35 40 45

Gly Tyr Cys Met Thr Arg Asp Ile Asn Gly Lys Leu Phe Leu Pro Lys
 50 55 60

Tyr Ala Leu Ser Gln Asp Val Cys Thr Tyr Arg Asp Phe Ile Tyr Arg
 65 70 75 80

Thr Val Glu Ile Pro Gly Cys Pro Leu His Val Ala Pro Tyr Phe Ser
 85 90 95

Tyr Pro Val Ala Leu Ser Cys Lys Cys Gly Lys Cys Asn Thr Asp Tyr
 100 105 110

Ser Asp Cys Ile His Glu Ala Ile Lys Thr Asn Tyr Cys Thr Lys Pro
 115 120 125

Gln Lys Ser Tyr Leu Val Gly Phe Ser Val
 130 135

<210> 10

<211> 23

<212> PRT

<213> Homo sapiens

<400> 10

Met Lys Leu Ala Phe Leu Leu Leu Gly Pro Met Ala Leu Leu Leu Leu
 1 5 10 15

Ala Gly Tyr Gly Cys Leu Gly
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<210> 11

<211> 20

<212> PRT

<213> Homo sapiens

<400> 11

Met Glu Met Phe Gln Gly Leu Leu Leu Leu Leu Leu Ser Met Gly
 1 5 10 15

Gly Thr Trp Ala
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<210> 12

<211> 19

<212> PRT

<213> Homo sapiens

<400> 12

Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His

1

5

10

15

His Arg Val

<210> 13

<211> 166

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 13

Met	Glu	Met	Phe	Gln	Gly	Leu	Leu	Leu	Leu	Leu	Leu	Ser	Met	Gly
1				5				10					15	

Gly	Thr	Trp	Ala	Ser	Lys	Glu	Pro	Leu	Arg	Pro	Arg	Cys	Arg	Pro	Ile
			20					25				30			

Asn	Ala	Thr	Leu	Ala	Val	Glu	Lys	Glu	Gly	Cys	Pro	Val	Cys	Ile	Thr
	35						40					45			

Val	Asn	Thr	Thr	Ile	Cys	Ala	Gly	Tyr	Cys	Glu	Thr	Trp	Glu	Lys	Pro
	50				55					60					

Ile	Leu	Glu	Pro	Pro	Tyr	Ile	Glu	Ala	His	His	Arg	Val	Cys	Asn	Tyr
65					70				75					80	

Arg	Asp	Val	Arg	Phe	Glu	Ser	Ile	Arg	Leu	Pro	Gly	Cys	Pro	Arg	Gly
			85						90					95	

Val	Asn	Pro	Val	Val	Ser	Tyr	Ala	Val	Ala	Leu	Ser	Cys	Gln	Cys	Ala
		100						105					110		

Leu	Cys	Arg	Arg	Ser	Thr	Thr	Asp	Cys	Gly	Gly	Pro	Lys	Asp	His	Pro
	115						120					125			

Leu	Thr	Cys	Asp	Asp	Pro	Arg	Phe	Gln	Asp	Ser	Ser	Ser	Ser	Lys	Ala
	130					135					140				

Pro	Pro	Pro	Ser	Leu	Pro	Ser	Pro	Ser	Arg	Leu	Pro	Gly	Pro	Ser	Asp
145				150						155				160	

Thr	Pro	Ile	Leu	Pro	Gln
			165		

<210> 14

<211> 143

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 14

Met	Lys	Leu	Ala	Phe	Leu	Leu	Leu	Gly	Pro	Met	Ala	Leu	Leu	Leu	Leu
1				5				10				15			

Ala Gly Tyr Gly Cys Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr Phe
 20 25 30

Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro Gly
 35 40 45

Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys Glu
 50 55 60

Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His
 65 70 75 80

Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu Pro
 85 90 95

Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala Ile
 100 105 110

Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Thr Val
 115 120 125

Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys Glu
 130 135 140

<210> 15

<211> 21

<212> PRT

<213> Homo sapiens

<400> 15

Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala
 1 5 10 15

His His Arg Val Cys
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<210> 16

<211> 19

<212> PRT

<213> Homo sapiens

<400> 16

Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
 1 5 10 15

His Arg Val

<210> 17

<211> 754

<212> DNA

<213> Homo sapiens

<400> 17

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 tgaagcctgg ggccaggagg cagtcatccc aggcgtgccac ttgcaccctc tcaatgtgac 180
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<210> 18
 <211> 129
 <212> PRT
 <213> Homo sapiens

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<400> 18
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
  1          5          10          15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
  20          25          30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
  35          40          45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
  50          55          60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
  65          70          75          80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
  85          90          95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
  100         105         110

Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
  115         120         125

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Tyr

<210> 19
 <211> 596
 <212> DNA
 <213> Mus musculus

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<400> 19
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agccatccca ggctgccact tgcacccctt caatgtgacg gtgcgcagtg atgcctcgg 180
cacttgccag ggctcccacg tggcacaggc ctgtgtagga cactgtgagt ctagtgtctt 240
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ccagtgtctg accatcagca gcctcagaaa ggtgaggggtg tggctgcagt gcgtggggaa 360
ccagcgtggg gagcttgaga tctttactgc aagggcctgc cagtgtgata tgtgccgttt 420
ctcccgtac tagtccccga agctcaggct ccggtcctgc cactgacatg tcatgggtat 480
ctcaaaactg gggctctgac cctctttatc gtctgtgaag atgaggttgg ccctctcagc 540
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<210> 20
 <211> 128
 <212> PRT
 <213> Mus musculus

<400> 20
 Met Pro Met Ala Pro Arg Val Leu Leu Leu Cys Leu Leu Gly Leu Ala
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 Val Thr Glu Gly His Ser Pro Glu Thr Ala Ile Pro Gly Cys His Leu
 20 25 30
 His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Leu Gly Thr Cys Gln
 35 40 45
 Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser Ala
 50 55 60
 Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His Asn
 65 70 75 80
 Ile Thr Ser Ser Ser Gln Cys Cys Thr Ile Ser Ser Leu Arg Lys Val
 85 90 95
 Arg Val Trp Leu Gln Cys Val Gly Asn Gln Arg Gly Glu Leu Glu Ile
 100 105 110
 Phe Thr Ala Arg Ile Cys Gln Cys Asp Met Cys Arg Phe Ser Arg Tyr
 115 120 125

<210> 21
 <211> 844
 <212> DNA
 <213> Rattus norvegicus

<400> 21
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<210> 22
 <211> 129

<212> PRT

<213> Rattus norvegicus

<400> 22

Met Pro Met Ala Pro Arg Val Leu Leu Phe Cys Leu Leu Gly Leu Ala
 1 5 10 15

Val Thr Glu Gly His Gly Leu Glu Ala Ala Val Pro Ile Pro Gly Cys
 20 25 30

His Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg His Gly Thr
 35 40 45

Cys Gln Gly Ser His Val Ala Gln Ala Cys Gly His Cys Glu Ser Ser
 50 55 60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65 70 75 80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Ser Leu Lys Lys
 85 90 95

Val Arg Val Trp Leu His Cys Val Gly Asn Gln Arg Gly Glu Leu Glu
 100 105 110

Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
 115 120 125

Tyr

<210> 23

<211> 1224

<212> DNA

<213> Homo sapiens

<400> 23

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aggcacaggc aacgggagct ggggcgaggc aaaccttggc agaggcgccg tctactgctt 540
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<210> 24
 <211> 6
 <212> PRT
 <213> Homo sapiens

<400> 24
 Leu His Pro Phe Asn Val
 1 5

<210> 25
 <211> 6
 <212> PRT
 <213> Homo sapiens

<400> 25
 Leu Lys Lys Val Lys Val
 1 5

<210> 26
 <211> 116
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Asp Tyr Tyr Arg Lys Tyr Ala Ala Ile Phe Leu Val Thr Leu Ser
 1 5 10 15
 Val Phe Leu His Val Leu His Ser Ala Pro Asp Val Gln Asp Cys Pro
 20 25 30
 Glu Cys Thr Leu Gln Glu Asn Pro Phe Phe Ser Gln Pro Gly Ala Pro
 35 40 45
 Ile Leu Gln Cys Met Gly Cys Cys Phe Ser Arg Ala Tyr Pro Thr Pro
 50 55 60
 Leu Arg Ser Lys Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu
 65 70 75 80
 Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn Arg Val Thr Val Met Gly
 85 90 95
 Gly Phe Lys Val Glu Asn His Thr Ala Cys His Cys Ser Thr Cys Tyr
 100 105 110
 Tyr His Lys Ser
 115

<210> 27
 <211> 129
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Lys Thr Leu Gln Phe Phe Phe Leu Phe Cys Cys Trp Lys Ala Ile
 1 5 10 15
 Cys Cys Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys

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Glu Glu Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly		
35	40	45
Tyr Cys Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys		
50	55	60
Ile Gln Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg		
65	70	75
Val Pro Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val		
85	90	95
Ala Thr Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys		
100	105	110
Thr Val Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys		
115	120	125

Glu

<210> 28
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
 1 5 10 15

Ala Val Thr Glu Ala Trp Gly
 20

<210> 29
 <211> 22
 <212> PRT
 <213> Mus musculus

<400> 29
 Met Pro Met Ala Pro Arg Val Leu Leu Leu Cys Leu Leu Gly Leu Ala
 1 5 10 15

Val Thr Glu Gly His Ser
 20

<210> 30
 <211> 22
 <212> PRT
 <213> Rattus norvegicus

<400> 30
 Met Pro Met Ala Pro Arg Val Leu Leu Phe Cys Leu Leu Gly Leu Ala
 1 5 10 15

Val Thr Glu Gly His Gly
 20

<210> 31
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Consensus
 Sequence

<400> 31

Cys Arg Pro Gly Cys Arg Pro Thr Asn Tyr Thr Ile Ser Val Glu Lys
 1 5 10 15
 Glu Glu Cys Pro Val Cys Ile Thr Ile Asn Thr Thr Ile Cys Ala Gly
 20 25 30
 Tyr Cys Tyr Thr Arg Asp Pro Val Tyr Lys Ser Pro Leu Leu Pro Leu
 35 40 45
 Pro Gln Arg Val Cys Thr Tyr Gly Glu Trp Ser Tyr Glu Thr Ala Arg
 50 55 60
 Leu Pro Gly Cys Pro Pro Gly Val Asp Pro His Phe Thr Tyr Pro Val
 65 70 75 80
 Ala Leu Ser Cys Tyr Cys Gly Lys Cys Asn Thr Asp Thr Thr Asp Cys
 85 90 95
 Thr Val Leu Ser Leu Arg Pro Asp Ser Cys Ser
 100 105

<210> 32
 <211> 99
 <212> PRT
 <213> Homo sapiens

<400> 32

Thr Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys
 1 5 10 15
 Pro Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg
 20 25 30
 Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala
 35 40 45
 His His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys
 50 55 60
 Leu Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val
 65 70 75 80
 Ala Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys
 85 90 95
 Glu Thr Ile

<210> 33
 <211> 107
 <212> PRT
 <213> Homo sapiens

<400> 33
 Leu Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys
 1 5 10 15
 Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly
 20 25 30
 Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu
 35 40 45
 Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg
 50 55 60
 Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val
 65 70 75 80
 Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys
 85 90 95
 Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp
 100 105

<210> 34
 <211> 107
 <212> PRT
 <213> Anguilla anguilla

<400> 34
 Leu Leu Leu Pro Cys Glu Pro Ile Asn Glu Thr Ile Ser Val Glu Lys
 1 5 10 15
 Asp Gly Cys Pro Lys Cys Leu Val Phe Gln Thr Ser Ile Cys Ser Gly
 20 25 30
 His Cys Ile Thr Lys Asp Pro Ser Tyr Lys Ser Pro Leu Ser Thr Val
 35 40 45
 Tyr Gln Arg Val Cys Thr Tyr Arg Asp Val Arg Tyr Glu Thr Val Arg
 50 55 60
 Leu Pro Asp Cys Arg Pro Gly Val Asp Pro His Val Thr Phe Pro Val
 65 70 75 80
 Ala Leu Ser Cys Asp Cys Asn Leu Cys Thr Met Asp Thr Ser Asp Cys
 85 90 95
 Ala Ile Gln Ser Leu Arg Pro Asp Phe Cys Met
 100 105

<210> 35
 <211> 107
 <212> PRT
 <213> Fundulus heteroclitus

<400> 35

Gln Leu Pro Arg Cys Gln Leu Leu Asn Gln Thr Ile Ser Leu Glu Lys
 1 5 10 15

Arg Gly Cys Ser Gly Cys His Arg Val Glu Thr Thr Ile Cys Ser Gly
 20 25 30

Tyr Cys Ala Thr Lys Asp Pro Asn Tyr Lys Thr Ser Tyr Asn Lys Ala
 35 40 45

Ile Gln His Val Cys Thr Tyr Gly Asp Leu Tyr Tyr Lys Thr Phe Glu
 50 55 60

Phe Pro Glu Cys Val Pro Gly Val Asp Pro Val Val Thr Tyr Pro Val
 65 70 75 80

Ala Leu Ser Cys Arg Cys Gly Gly Cys Ala Met Ala Thr Ser Asp Cys
 85 90 95

Thr Phe Glu Ser Leu Gln Pro Asp Phe Cys Met
 100 105

<210> 36

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Consensus Sequence

<400> 36

Ala Thr Lys Lys Arg Pro Lys Cys Arg Pro Thr Asn Val Thr Ile Tyr
 1 5 10 15

Val Glu Lys Glu Gly Cys Thr Ser Cys Lys Thr Val Asn Thr Thr Ile
 20 25 30

Cys Ala Gly Tyr Cys Tyr Thr Lys Asp Pro Val Tyr Lys Asp Gly Arg
 35 40 45

Arg Leu Leu Ile Gln Cys Val Cys Cys Tyr Pro Asp Val Thr Tyr Glu
 50 55 60

Thr Lys Val Leu Pro Gly Cys Pro Asn Gly Val Asp Pro Thr Lys Thr
 65 70 75 80

Tyr Pro Val Ala Leu Ser Cys His Cys Gly Lys Cys Asn Thr Asp Asn
 85 90 95

Thr Asp Cys Thr Arg Glu Ser Leu His Pro Asp Ser Cys
 100 105

<210> 37

<211> 102

<212> PRT

<213> Homo sapiens

<400> 37

Asn Leu Arg Thr Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu
 1 5 10 15
 Ala Lys Lys Pro Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys
 20 25 30
 Trp Gly Arg Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr
 35 40 45
 Ile Glu Ala His His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val
 50 55 60
 Thr Val Lys Leu Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr
 65 70 75 80
 Tyr Pro Val Ala Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr
 85 90 95
 Thr Glu Cys Glu Thr Ile
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<210> 38

<211> 109

<212> PRT

<213> Homo sapiens

<400> 38

Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala
 1 5 10 15
 Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile
 20 25 30
 Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu
 35 40 45
 Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu
 50 55 60
 Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser
 65 70 75 80
 Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg Ser Thr
 85 90 95
 Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys
 100 105

<210> 39

<211> 104

<212> PRT

<213> Homo sapiens

<400> 39

Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys Glu Glu
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 Cys Arg Phe Cys Ile Ser Ile Asn Thr Ala Trp Cys Ala Gly Tyr Cys

20

25

30

Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys Ile Gln
 35 40 45
 Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg Val Pro
 50 55 60
 Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr
 65 70 75 80
 Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys Thr Val
 85 90 95
 Arg Gly Leu Gly Pro Ser Tyr Cys
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<210> 40
 <211> 109
 <212> PRT
 <213> Homo sapiens

<400> 40
 Arg Glu Pro Leu Arg Pro Trp Cys His Pro Ile Asn Ala Ile Leu Ala
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 Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile
 20 25 30
 Cys Ala Gly Tyr Cys Pro Thr Met Met Arg Val Leu Gln Ala Val Leu
 35 40 45
 Pro Pro Leu Pro Gln Val Val Cys Thr Tyr Arg Asp Val Arg Phe Glu
 50 55 60
 Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asp Pro Val Val Ser
 65 70 75 80
 Phe Pro Val Ala Leu Ser Cys Arg Cys Gly Pro Cys Arg Arg Ser Thr
 85 90 95
 Ser Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys
 100 105

<210> 41
 <211> 109
 <212> PRT
 <213> Ctenolepisma lineata

<400> 41
 Gly Gly Ser Leu Leu Leu Pro Cys Glu Pro Ile Asn Glu Thr Ile Ser
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 Val Glu Lys Asp Gly Cys Pro Lys Cys Leu Val Phe Gln Thr Ser Ile
 20 25 30
 Cys Ser Gly His Cys Ile Thr Lys Asp Pro Ser Tyr Lys Ser Pro Leu
 35 40 45

Ser Thr Val Tyr Gln Arg Val Cys Thr Tyr Arg Asp Val Arg Tyr Glu
50 55 60

Thr Val Arg Leu Pro Asp Cys Arg Pro Gly Val Asp Pro His Val Thr
65 70 75 80

Phe Pro Val Ala Leu Ser Cys Asp Cys Asn Leu Cys Thr Met Asp Thr
85 90 95

Ser Asp Cys Ala Ile Gln Ser Leu Arg Pro Asp Phe Cys
100 105

<210> 42

<211> 109

<212> PRT

<213> *Ctenolepisma lineata*

<400> 42

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1 5 10 15

Val Glu Lys Glu Gly Cys Pro Lys Cys Leu Val Phe Gln Thr Thr Ile
20 25 30

Cys Ser Gly His Cys Leu Thr Lys Glu Pro Val Tyr Lys Ser Pro Phe
35 40 45

Ser Thr Val Tyr Gln His Val Cys Thr Tyr Arg Asp Val Arg Tyr Glu
50 55 60

Thr Val Arg Leu Pro Asp Cys Pro Pro Gly Val Asp Pro His Ile Thr
65 70 75 80

Tyr Pro Val Ala Leu Ser Cys Asp Cys Ser Leu Cys Thr Met Asp Thr
85 90 95

Ser Asp Cys Thr Ile Glu Ser Leu Gln Pro Asp Phe Cys
100 105

<210> 43

<211> 109

<212> PRT

<213> *Fundulus heteroclitus*

<400> 43

Ala Ala Phe Gln Leu Pro Arg Cys Gln Leu Leu Asn Gln Thr Ile Ser
1 5 10 15

Leu Glu Lys Arg Gly Cys Ser Gly Cys His Arg Val Glu Thr Thr Ile
20 25 30

Cys Ser Gly Tyr Cys Ala Thr Lys Asp Pro Asn Tyr Lys Thr Ser Tyr
35 40 45

Asn Lys Ala Ile Gln His Val Cys Thr Tyr Gly Asp Leu Tyr Tyr Lys
50 55 60

Thr Phe Glu Phe Pro Glu Cys Val Pro Gly Val Asp Pro Val Val Thr
65 70 75 80

Tyr Pro Val Ala Leu Ser Cys Arg Cys Gly Gly Cys Ala Met Ala Thr
 85 90 95

Ser Asp Cys Thr Phe Glu Ser Leu Gln Pro Asp Phe Cys
 100 105

<210> 44

<211> 105

<212> PRT

<213> Rana catesbeiana

<400> 44

Arg His Val Cys His Leu Ala Asn Ala Thr Ile Ser Ala Glu Lys Asp
 1 5 10 15

His Cys Pro Val Cys Ile Thr Phe Thr Thr Ser Ile Cys Thr Gly Tyr
 20 25 30

Cys Gln Thr Met Asp Pro Val Tyr Lys Thr Ala Leu Ser Ser Phe Lys
 35 40 45

Gln Asn Ile Cys Thr Tyr Lys Glu Ile Arg Tyr Asp Thr Ile Lys Leu
 50 55 60

Pro Asp Cys Leu Pro Gly Thr Asp Pro Phe Phe Thr Tyr Pro Val Ala
 65 70 75 80

Leu Ser Cys Tyr Cys Asp Leu Cys Lys Met Asp Tyr Ser Asp Cys Thr
 85 90 95

Val Glu Ser Ser Glu Pro Asp Val Cys
 100 105

<210> 45

<211> 111

<212> PRT

<213> Anguilla anguilla

<400> 45

Ala Gly Gln Val Leu Ser Ile Cys Ser Pro Val Asp Tyr Thr Leu Tyr
 1 5 10 15

Val Glu Lys Pro Glu Cys Asp Phe Cys Val Ala Ile Asn Thr Thr Ile
 20 25 30

Cys Met Gly Phe Cys Tyr Ser Leu Asp Pro Asn Val Val Gly Pro Ala
 35 40 45

Val Lys Arg Leu Val Val Gln Arg Gly Cys Thr Tyr Gln Ala Val Glu
 50 55 60

Tyr Arg Thr Ala Glu Leu Pro Gly Cys Pro Pro His Val Asp Pro Arg
 65 70 75 80

Phe Ser Tyr Pro Val Ala Leu His Cys Thr Cys Arg Ala Cys Asp Pro
 85 90 95

Ala Arg Asp Glu Cys Thr His Arg Ala Ser Ala Asp Gly Asp Arg

100

105

110

<210> 46
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 46
 tcgatgatgg gcttcaatat agg

23

<210> 47
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Probe
 Sequence

<400> 47
 cctgggagaa acccattctg gaaccc

26

<210> 48
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 48
 gcctcagatg gtctcacact cc

22

<210> 49
 <211> 29
 <212> DNA
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<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 49
 ctcgaggcct ccagtgggaa cctgcgcac

29

<210> 50
 <211> 31
 <212> DNA
 <213> Artificial Sequence

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<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 50
gggcccgat cctcagatgg tctcacactc c 31

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 51
gctagcatga agctggcatt cctc 24

<210> 52
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 52
tatcgatggt ctcacactcc gtg 23

<210> 53
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Oligonucleotide

<400> 53
ctagtctcga ggctgcagtt gctgactaca aagacgatga cgacaagg 48

<210> 54
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Oligonucleotide

<400> 54
ccttgctgctc atcgtctttg tagtcagcaa ctgcagcctc gaga 44

<210> 55
<211> 27

<212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 55

tttgctagca ccatgtctgc acttctg

27

<210> 56

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 56

tttggatcct cagatggtct cacactc

27

<210> 57

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 57

aggaggcagt catcccagg

19

<210> 58

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 58

tgcccttggcg gtcacttc

18

<210> 59

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Probe
 Sequence

<400> 59

tgccacttgc accccttcaa tgtg

24

<210> 60
 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 60
 aggcagccgt cccaatc

17

<210> 61
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 61
 gatcacttcg cactgtcacg tt

22

<210> 62
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Probe Sequence

<400> 62
 caggctgccca cttgcacccc tt

22

<210> 63
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 63
 ttttaagctt agtgatgcct atggcgtccc c

31

<210> 64
 <211> 25
 <212> DNA
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<223> Description of Artificial Sequence: PCR Primer

Sequence

<400> 64
 ttttgaattc gtagcgagag aggcg 25

<210> 65
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<220>
 <223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 65
 tttgagatct tcacggccag gg 22

<210> 66
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<220>
 <223> Description of Artificial Sequence: Synthetic
 Oligonucleotide

<400> 66
 ctagaggaat tcgggcc 17

<210> 67
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<220>
 <223> Description of Artificial Sequence: Synthetic
 Oligonucleotide

<400> 67
 cgaattcct 9

<210> 68
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 <223> Description of Artificial Sequence: PCR Primer
 Sequence

<400> 68
 ttttctagaa caggaggcag tcatcccagg c 31

<210> 69
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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 69
 ttttgaattc ctagtagcga gagaggcg 28

<210> 70
 <211> 52
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<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 70
 agttgctgac tacaaagacg atgacgacaa gcaggaggca gtcacccag gc 52

<210> 71
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 <212> DNA
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<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 71
 cccgtttaaa cggatcctca gtagcgagag aggcgacaca tg 42

<210> 72
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 <212> DNA
 <213> Artificial Sequence

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<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 72
 tttgctagcc accatgtctg cacttctgat cctagctctt gttggagctg cagttgctga 60
 ctacaaagac gatg 74

<210> 73
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 <212> DNA
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<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 73
 cccgtttaaa cggatcctca gtagcgagag aggcgacaca tg 42

<210> 74
 <211> 26
 <212> DNA
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 <220>
 <223> Description of Artificial Sequence: PCR Primer
 Sequence

 <400> 74
 ggtaccaagg tagccttgca gaagtt 26

 <210> 75
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR Primer
 Sequence

 <400> 75
 cagctggtaa ttgaactggg agtgga 26

 <210> 76
 <211> 18
 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence: PCR Primer
 Sequence

 <400> 76
 gggccttcgg atcaccac 18

 <210> 77
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 <223> Description of Artificial Sequence: PCR Primer
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 <400> 77
 cagcatgaag ctggcattcc tc 22

 <210> 78
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 <400> 78
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agctcaggca aaaggcccaa atgcagccta cttatgctaa aagttcaaaa caatattcgt 5280
gccttcacca aaataatttc tccagctcac atacctgcaa attaattttt ctttgccttg 5340
agtcttgga cataatttgt gtatcacaat cctcccccaa tttggactta taatatgcta 5400
atgatttaaa cacatgggat gtaattagga tatggggctg gaaagtcttt aaattctcat 5460
gttctattta acctctgatc tccaaccgga tttatgatta aagggtctga aatgaacaaa 5520
acccatgtac tagtcttcct taccacagag gaattccagc tgcaagcttc tttagggaaa 5580
atgtccctt ccccttttaa ctgagcaatt atctacacaa gaaataagac tgctcagata 5640
tacaagaga gtagcttcaa tgaaaagatg tttggatttg gataattctt ttccctagca 5700
aaattcgcta gtcctcttaa gagtcttaat aaagaggcta cgttgggatt aaaagaaaaa 5760
aaaacagaaa taaaatatgt aactaatagc tatctcattt agccttaaaa acttattaaa 5820
ctaaactcat gtttttagagt atgatgttct cccaaagcta tggcaaaatg gccaatcaca 5880
agtattcttc cccatttatc atattttcaa ttttaagttg aacttactaa actcagaaat 5940
tttatatgag tttaggggta aaactgcatg gctggctcag aggaaaaagc ctgtgatttt 6000
ctagctcctg cctctctaaa atcttacagt agctaattct gtggctggaa aaaacctcca 6060
aaactcta at gttatgcaaa tgtctttaat tctggcattt ttgggggtga atttaacctt 6120
gttctttttt cataatgtgc caagaaaacc tatattaatg ccaataaagc atgtcctctg 6180
tcttttggat tcatgacaac attcaagaaa gtctttttta ttcttagtat acttggagta 6240

```

<210> 79

<211> 1224

<212> DNA

<213> Homo sapiens

<400> 79

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agatggcgaa gaaaattcca ggggaaggag aatcactgca cagagggctg acacacaggt 60
cctttccaga cacagctgct cacactcaca ccatacaca cacacacaca cacacaaagg 120
cagatacagg gaaaaggcag caccattcag gccacacctc cctgtcagac cagccagccc 180
tggtcactc acctggaatg cagtatttaa agaactcgcc atcccacctg cacaccacg 240
tagagacatc tccccactgt gtttcagatg cctatggcgt cccctcaaac cctggctctc 300
tatctgctgg tcctggcagt cactgaagcc tggggccagg aggcagtcac cccaggctgc 360
cacttgaccc gtgagtacct ctgggaccgg agggctagga gcagtggagg ttctgggtgg 420
gagcaaagag ctgacagagt ggacgggtgg gcaggcagca ccctaaaggg cccacactg 480
aggcacaggc aacgggagct ggggcgaggc aaaccttggc agaggcgccg tctactgctt 540
gcctatctcc ttctagcctt caatgtgaca gtgcgaagtg accgccaagg cacctgccag 600
ggctccacg tggcacagge ctgtgtgggc cactgtgagt ccagcgccct cccttctcgg 660

```

```

tactctgtgc tggtagccag tggttaccga cacaacatca cctccgtctc tcagtgtctgc 720
accatcagtg gcctgaagaa ggtgaggagg gcccgggccc ggtggatgga cgctgggggc 780
gcgggaagac cagagagatg gagatcctag acagccctga gaaaggggac tgcagcacgg 840
actcccctct cccgcaggtc aaagtacagc tgcagtgtgt ggggagccgg agggaggagc 900
tcgagatctt cacggccagg gcctgccagt gtgacatgtg tcgcctctct cgctactagc 960
ccatcctctc cctcctctcc tcccctgggt cacagggctt gacattctgg tgggggaaac 1020
ctgtgttcaa gattcaaaaa ctggaaggag ctccagccct gatggttact tgctatggaa 1080
tttttttaaa taaggggagg gttgttccag ctttgatcct ttgtaagatt ttgtgactgt 1140
cacctgagaa gaggggagtt tctgctctt cctgcctct gcctggccct tctaaaccaa 1200
tctttcatca ttttacttcc ctct

```

<210> 80

<211> 490

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 80

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cactttgcct ttctctccac aggtgtccac tcccagttca attaccagct gctagcgtcg 60
accatgtctg cacttctgat cctagctctt gttggagctg cagttgctca tcatcaccat 120
caccatgggtg acgatgacga taagcaggag gcagtcaccc caggctgcca cttgcacccc 180
ttcaatgtga cagtgcgaag tgaccgcaa ggcacctgcc agggctccca cgtggcacag 240
gcctgtgtgg gccactgtga gtccagcgcc ttcccttctc ggtactctgt gctggtggcc 300
agtgggttacc gacacaacat cactccgtc tctcagtgtc gcaccatcag tggcctgaag 360
aagggtcaaag tacagctgca gtgtgtgggg agccggaggg aggagctcga gatcttcacg 420
gccagggcct gccagtgtga catgtgtcgc ctctctcgct actagtcgac ggatccagac 480
atgataagat

```

<210> 81

<211> 130

<212> PRT

<213> Homo sapiens

<400> 81

```

Met Lys Leu Ala Phe Leu Phe Leu Gly Pro Met Ala Leu Leu Leu Leu
 1              5              10              15

Ala Gly Tyr Gly Cys Val Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr
      20              25              30

Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro
      35              40              45

Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys
      50              55              60

Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
      65              70              75              80

His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu
      85              90              95

Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala
      100              105              110

Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu
      115              120              125

```

Thr Ile
130

<210> 82
<211> 420
<212> DNA
<213> Homo sapiens

<400> 82
cgaattcgcc cttcagcatg aagctggcat tctcttctct tggccccatg gccctcctcc 60
ttctggctgg ctatggctgt gtcctcggtg cctccagtgg gaacctgcgc acctttgtgg 120
gctgtgccgt gagggagttt actttcctgg ccaagaagcc aggctgcagg ggccttcgga 180
tcaccacgga tgcctgctgg ggtcgctgtg agacctggga gaaaccatt ctggaacccc 240
cctatatattga agcccatcat cgagtctgta cctacaacga gaccaaacag gtgactgtca 300
agctgcccga ctgtgccccg ggagtcgacc cttctacac ctatcccgtg gccatccgct 360
gtgactgcgg agcctgctcc actgccacca cggagtgtga gaccatctga ggcaagggcg 420

<210> 83
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 83
Ala Ser Ser Gly Asn Leu Arg Thr Phe Val Gly Cys Ala Val Arg Glu
1 5 10 15
Phe Thr Phe Leu Ala Lys Lys Pro Gly Cys Arg Gly Leu Arg Ile Thr
20 25 30
Thr Asp Ala Cys Trp Gly Arg Cys Glu Thr Trp Glu Lys Pro Ile Leu
35 40 45
Glu Pro Pro Tyr Ile Glu Ala His His Arg Val Cys Thr Tyr Asn Glu
50 55 60
Thr Lys Gln Val Thr Val Lys Leu Pro Asn Cys Ala Pro Gly Val Asp
65 70 75 80
Pro Phe Tyr Thr Tyr Pro Val Ala Ile Arg Cys Asp Cys Gly Ala Cys
85 90 95
Ser Thr Ala Thr Thr Glu Cys Glu Thr Ile
100 105

<210> 84
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 84
ggactagtc tgcaggttta aacgaattcg cccttctcga ggctccagt gggaacctgc 60

```

gcacctttgt gggctgtgcc gtgagggagt ttacttttct ggccaagaag ccaggctgca 120
ggggccttcg gatcaccacg gatgcctgct ggggtcgctg tgagacctgg gagaaacca 180
ttctggaacc cccctatatt gaagcccatc atcgagtctg tacctacaac gagaccaaac 240
aggtgactgt caagctgccc aactgtgccc cgggagtcga ccccttctac acctatcccg 300
tggccatccg ctgtgactgc ggagcctgct ccaactgccac cacggagtgt gagaccatct 360
gaggatccgg gcccaagggc gaattcgcgg ccgctaaatt caattcgccc tatagttagt 420

```

<210> 85

<211> 131

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 85

```

Leu Glu Pro Tyr Thr Ala Cys Asp Leu Ala Pro Pro Ala Gly Thr Thr
 1              5              10              15
Asp Ala Ala His Pro Gly Tyr Leu Glu Ala Ser Ser Gly Asn Leu Arg
      20              25              30
Thr Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys
      35              40              45
Pro Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg
      50              55              60
Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala
      65              70              75              80
His His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys
      85              90              95
Leu Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val
      100              105              110
Ala Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys
      115              120              125
Glu Thr Ile
      130

```

<210> 86

<211> 420

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 86

```

cctggagccc tacaccgect ggcacctggc gccccccgcc ggcaccaccg acgccgcgca 60
cccggttat ctcgaggcct ccagtgggaa cctgcgcacc tttgtgggct gtgccgtgag 120
ggagtctact ttcttgcca agaagccagg ctgcaggggc ctteggatca ccacggatgc 180
ctgctggggg cgtgtgaga cctgggagaa acccattctg gaacccccct atattgaagc 240
ccatcatcga gtctgtacct acaacgagac caaacagggt actgtcaagc tgcccaactg 300
tgccccggga gtcgaccctt tctacaccta tcccgtggcc atccgctgtg actgcggagc 360
ctgctccact gccaccagg agtgtgagac catctgagga tccgggcccg aacaaaaact 420

```

<210> 87

<211> 387

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 87

Met Lys Leu Ala Phe Leu Phe Leu Gly Pro Met Ala Leu Leu Leu Leu
 1 5 10 15

Ala Gly Tyr Gly Cys Val Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr
 20 25 30

Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro
 35 40 45

Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys
 50 55 60

Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
 65 70 75 80

His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu
 85 90 95

Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala
 100 105 110

Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu
 115 120 125

Thr Ile Asp Lys Gly Gln Phe Cys Arg Tyr Pro Ala Gln Trp Arg Pro
 130 135 140

Leu Glu Ser Arg Met Ala Ser Lys Gly Glu Glu Leu Phe Thr Gly Val
 145 150 155 160

Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe
 165 170 175

Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr
 180 185 190

Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr
 195 200 205

Leu Val Thr Thr Phe Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro
 210 215 220

Asp His Met Lys Arg His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly
 225 230 235 240

Tyr Val Gln Glu Arg Thr Ile Ser Phe Lys Asp Asp Gly Asn Tyr Lys
 245 250 255

Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile
 260 265 270

Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His
 275 280 285

Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Thr Ala Asp
 290 295 300

Lys Gln Lys Asn Gly Ile Lys Ala Asn Phe Lys Ile Arg His Asn Ile
 305 310 315 320

Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro
 325 330 335

Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr
 340 345 350

Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val
 355 360 365

Leu Leu Glu Phe Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu
 370 375 380

Leu Tyr Lys
 385

<210> 88

<211> 1210

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 88

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gcatgaagct ggcattcctc ttccttggcc ccatggccct cctccttctg gctggctatg 60
gctgtgtcct cgggtgcctcc agtgggaacc tgcgcacctt tgtgggctgt gccgtgaggg 120
agtttacttt cctggccaag aagccaggct gcaggggcct tcggatcacc acggatgcct 180
gctgggggtcg ctgtgagacc tgggagaaac ccattctgga acccccctat attgaagccc 240
atcatcgagt ctgtacctac aacgagacca aacaggtgac tgtcaagctg cccaactgtg 300
ccccgggagt cgaccccttc tacacctatc ccgtggccat ccgctgtgac tgcggagcct 360
gtccactgc caccacggag tgtgagacca tcgataaagg gcaattctgc agatatccag 420
cacagtggcg gccgctcgag tctagaatgg ctagcaaagg agaagaactt ttcactggag 480
ttgtcccaat tcttgttgaa ttagatgggt atgttaatgg gcacaaattt tctgtcagtg 540
gagaggggtga aggtgatgct acatacggaa agcttaccct taaatttatt tgcactactg 600
gaaaactacc tgttccatgg ccaacacttg tctactttt ctcttatggg gttcaatgct 660
tttcccgtaa tccggatcat atgaaacggc atgacttttt caagagtgcc atgcccgaag 720
gttatgtaca ggaacgcact atatctttca aagatgacgg gaactacaag acgctgctg 780
aagtcaagtt tgaaggtgat acccttgtaa atcgtatcga gttaaaaagg attgatttta 840
aagaagatgg aaacattctc ggacacaaac tcgagtacaa ctataactca cacaatgtat 900
acatcacggc agacaaacaa aagaatggaa tcaaagctaa cttcaaaatt cgccacaaca 960
ttgaagatgg atccgttcaa ctagcagacc attatcaaca aaatactcca attggcgatg 1020
gccctgtcct tttaccagac aaccattacc tgtcgacaca atctgccctt tcgaaagatc 1080
ccaacgaaaa gcgtgaccac atggtccttc ttgagtttgt aactgctgct gggattacac 1140
atggcatgga tgagctctac aaataatgaa ttaaaccgcg tgatcagcct cgactgtgcc 1200
ttctagttgc
1210
```

<210> 89

<211> 129

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 89

```

Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala Asp
 1           5           10           15
Tyr Lys Asp Asp Asp Asp Lys Ala Ser Ser Gly Asn Leu Arg Thr Phe
          20           25           30
Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro Gly
          35           40           45
Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys Glu
          50           55           60
Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His
 65           70           75           80
Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu Pro
          85           90           95
Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala Ile
          100          105          110
Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu Thr
          115          120          125
Ile

```

<210> 90

<211> 490

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 90

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ccgttgacgc aaatgggagg taggcgtgta cggtgggagg tctatataag cagagctcgt 60
ttagtgaacc gtcagaatta attcaccatg tctgcacttc tgatcctagc tcttggttga 120
gctgcagttg ctgactacaa agacgatgac gacaaggcct ccagtgggaa cctgcgcacc 180
tttgtgggct gtgccgtgag ggagtttact ttccctggcca agaagccagg ctgcaggggc 240
cttcggatca ccacggatgc ctgctggggg cgctgtgaga cctgggagaa acccattctg 300
gaacccccct atattgaagc ccatcatcga gtctgtacct acaacgagac caaacagggtg 360
actgtcaagc tgcccaactg tgccccggga gtcgaccctt tctacaccta tcccgtggcc 420
atccgctgtg actgcggagc ctgctccact gccaccacgg agtgtgagac catctgagga 480
tcccgggtgg                                     490

```

<210> 91

<211> 129

<212> PRT

<213> Homo sapiens

<400> 91

```

Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu

```

Tyr

<400>	92						
ggcgaattgg	gtaccggggcc	ccccctcgag	gtcgacggta	tcgataagct	tagtgatgcc	60	
tatggcgctcc	cctcaaacc	tggctcctcta	tctgctggtc	ctggcagtc	ctgaagcctg	120	
ggggccaggag	gcagtcaccc	caggctgcc	cttgacccc	ttcaatgtga	cagtgcgaag	180	
tgaccgccaa	ggcacctgcc	agggctccca	cgtggcacag	gcctgtgtgg	gccactgtga	240	
gtccagcgcc	ttcccttctc	ggtactctgt	gctggtgcc	agtggttacc	gacacaacat	300	
cacctccgct	tctcagtgct	gcaccatcag	tggcctgaag	aagggtcaaag	tacagctgca	360	
gtgtgtgtggg	agccggaagg	aggagctcga	gatcttaacg	gccagggcct	gccagtgtga	420	
catgtgtgcg	ctctctcgct	acgaattcct	gcagcccggg	ggatccacta	gttctagagc	480	
ggccgccacc						490	

<400> 93
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
1 5 10 15

35

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
65 70 75 80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
85 90 95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
100 105 110

Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
115 120 125

Tyr

<210> 94

<211> 390

<212> DNA

<213> Homo sapiens

<400> 94

atgcctatgg cgccccctca aaccctgggc ctctatctgc tggtcctggc agtcactgaa 60
gcctggggcc aggaggcagt catcccaggc tgccacttgc accccttcaa tgtgacagt 120
cgaagtgacc gccaaggcac ctgccagggc tcccacgtgg cacaggcctg tgtgggccac 180
tgtgagtcca gcgccttccc ttctcggtac tctgtgctgg tggccagtgg ttaccgacac 240
aacatcacct ccgtctctca gtgctgcacc atcagtggcc tgaagaaggc caaagtacag 300
ctgcagtgtg tggggagccg gagggaggag ctcgagatct taacggccag ggcctgccag 360
tgtgacatgt gtcgcctctc tcgctactag 390

<210> 95

<211> 129

<212> PRT

<213> Homo sapiens

<400> 95

Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
1 5 10 15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
20 25 30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
35 40 45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
50 55 60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
65 70 75 80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
85 90 95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
100 105 110

Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
115 120 125

Tyr

<210> 96
 <211> 490
 <212> DNA
 <213> Homo sapiens

<400> 96
 ggcgaattgg gtaccggggcc cccctctcgag gtcgacggta tcgataagct tagtgatgcc 60
 tatggcgctcc cctcaaacc tggctctcta tctgctgggc ctggcagtc ctgaagcctg 120
 gggccaggag gcagtcattc caggctgcc cttgcacccc ttcaatgtga cagtgcgaag 180
 tgaccgccaa ggcacctgcc agggctccca cgtggcacag gcctgtgtgg gccactgtga 240
 gtccagcgcc ttcccttctc ggtactctgt gctgggtggc agtgggttacc gacacaacat 300
 cacctccgct tctcagtgt gcaccatcag tggcctgaag aaggtaaag tacagctgca 360
 gtgtgtgggg agccggaggg aggagctcga gatcttcacg gccagggcct gccagtgtga 420
 catgtgtcgc ctctctcgt acgaattcct gcagcccggg ggatccacta gttctagagc 480
 ggccgccacc 490

<210> 97
 <211> 386
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Fusion Protein

<400> 97
 Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
 1 5 10 15
 Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
 20 25 30
 Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
 35 40 45
 Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
 50 55 60
 Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65 70 75 80
 Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
 85 90 95
 Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
 100 105 110
 Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
 115 120 125
 Tyr Glu Phe Cys Ser Arg Arg Tyr Arg Gly Pro Gly Ile His Arg Pro
 130 135 140
 Val Ala Thr Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val
 145 150 155 160

Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser
 165 170 175
 Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu
 180 185 190
 Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu
 195 200 205
 Val Thr Thr Leu Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp
 210 215 220
 His Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr
 225 230 235 240
 Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr
 245 250 255
 Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu
 260 265 270
 Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys
 275 280 285
 Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys
 290 295 300
 Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu
 305 310 315 320
 Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile
 325 330 335
 Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln
 340 345 350
 Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu
 355 360 365
 Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu
 370 375 380
 Tyr Lys
 385

<210> 98

<211> 1190

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 98

agcttagtga tgcctatggc gtcccctcaa accctgggtcc tctatctgct ggtcctggca 60
 gtcactgaag cctggggcca ggaggcagtc atcccaggct gccacttgca ccccttcaat 120
 gtgacagtgc gaagtgaccg ccaaggcacc tgccagggct cccacgtggc acaggcctgt 180
 gtgggccact gtgagtccag cgccttccct tctcggtact ctgtgctggt ggccagtggg 240
 taccgacaca acatcacctc cgtctctcag tgetgcacca tcagtggcct gaagaaggct 300
 aaagtacagc tgcagtgtgt ggggagccgg agggaggagc tcgagatctt aacggccagg 360

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gcctgccagt gtgacatgtg tcgcctctct cgctacgaat tctgcagtcg acggtaccgc 420
gggcccggga tccaccggcc ggtcgccacc atggtgagca agggcgagga gctgttcacc 480
gggggtggtg ccacccctgt cgagctggac ggcgacgtaa acggccacaa gttcagcgtg 540
tccggcgagg gcgagggcga tgccacctac ggcaagctga ccctgaagtt catctgcacc 600
accggcaagc tgcccgtgcc ctggcccacc ctcgtgacca ccctgacctg cggcgtgcag 660
tgcttcagcc gctaccccga ccacatgaag cagcagcact tcttcaagtc cgccatgccc 720
gaaggctacg tccaggagcg caccatcttc ttcaaggacg acggcaacta caagaccgcg 780
gccgaggtga agttcgaggg cgacaccctg gtgaaccgca tcgagctgaa gggcatcgac 840
ttcaaggagg acggcaacat cctggggcac aagctggagt acaactacaa cagccacaac 900
gtctatatca tggccgacaa gcagaagaac ggcataagg tgaacttcaa gatccgccac 960
aacatcgagg acggcagcgt gcagctcgcc gaccactacc agcagaacac ccccatcgcc 1020
gacggccccg tgctgctgcc cgacaaccac tacctgagca cccagtccgc cctgagcaaa 1080
gaccccaacg agaagcgcga tcacatggtc ctgctggagt tcgtgaccgc cgccgggatc 1140
actctcgga tggacgagct gtacaagtaa agcggccgcg actctagatc 1190

```

<210> 99

<211> 165

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 99

```

Ala Ala Cys Leu Glu Pro Tyr Thr Ala Cys Asp Leu Ala Pro Pro Ala
  1              5              10              15

```

```

Gly Thr Thr Asp Ala Ala His Pro Gly Tyr Leu Glu Glu Ala Leu Ser
      20              25              30

```

```

Leu Glu Gln Glu Ala Val Ile Pro Gly Cys His Leu His Pro Phe Asn
    35              40              45

```

```

Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys Gln Gly Ser His Val
    50              55              60

```

```

Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser Ala Phe Pro Ser Arg
    65              70              75              80

```

```

Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His Asn Ile Thr Ser Val
      85              90              95

```

```

Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys Val Lys Val Gln Leu
    100              105              110

```

```

Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu Ile Phe Thr Ala Arg
    115              120              125

```

```

Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg Tyr Glu Phe Gly Pro
    130              135              140

```

```

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Ser Ala Val Asp His
    145              150              155              160

```

```

His His His His His
      165

```

<210> 100

<211> 560

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 100

```

gccgcctgcc tggagcccta caccgcctgc gacctggcgc cccccgccgg caccaccgac 60
gccgcgcacc cgggttatct cgaggaagcg ctctctctag aacaggaggc agtcatccca 120
ggctgccact tgcacccctt caatgtgaca gtgcgaagtg accgccaagg cacctgccag 180
ggctcccacg tggcacaggc ctgtgtgggc cactgtgagt ccagcgcctt cccttctcgg 240
tactctgtgc tgggtggccag tggttaccga cacaacatca cctccgtctc tcagtgtctgc 300
accatcagtg gcctgaagaa ggtcaaagta cagctgcagt gtgtggggag ccggagggag 360
gagctcgaga tcttcacggc cagggcctgc cagtgtgaca tgtgtcgctt ctctcgctac 420
gaattcgggc ccgaacaaaa actcatctca gaagaggatc tgaatagcgc cgtcgaccat 480
catcatcatc atcattgagt ttaaaccgcg tgatcagcct cgactgtgcc ttctagtgtgc 540
cagccatctg ttgtttgcc

```

560

<210> 101

<211> 129

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 101

```

Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala Asp
 1             5             10             15

Tyr Lys Asp Asp Asp Lys Gln Glu Ala Val Ile Pro Gly Cys His
 20             25             30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
 35             40             45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
 50             55             60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65             70             75             80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
 85             90             95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
100             105             110

Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
115             120             125

Tyr

```

<210> 102

<211> 420

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 102

```
agctgctagc caccatgtct gcactttctga tcttagctct tgttggagct gcagttgctg 60
actacaaaga cgatgacgac aagcaggagg cagtcattccc aggctgccac ttgcacccct 120
tcaatgtgac agtgcggaagt gaccgccaag gcacctgcca gggctccac gtggcacagg 180
cctgtgtggg ccaactgtgag tccagcgctt tcccttctct gtactctgtg ctggtggcca 240
gtggttaccg acacaacatc acctccgtct ctcaagtgtg caccatcagt ggcctgaaga 300
aggtcaaagt acagctgcag tgtgtgggga gccggaggga ggagctcgag atcttcacgg 360
ccagggcctg ccagtgtgac atgtgtcgcc tctctcgcta ctgaggatcc agacatgata 420
```

<210> 103

<211> 69

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 103

```
ctcttggttg agctgcagtt gctcatcatc accatcacca tggtagcat gacgataagc 60
aggaggcag 69
```

<210> 104

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 104

```
tttgatccg tcgactagta gcgagagagg cgacacatg 39
```

<210> 105

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 105

```
tttgctagcg tcgacctgt ctgcattct gatcctagct cttgttgagg ctgcagttgc 60
tcac 65
```

<210> 106

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer

Sequence

<400> 106

tttggatccg tcgactagta gcgagagagg cgacacatg

39

<210> 107

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Fusion Protein

<400> 107

Met	Ser	Ala	Leu	Leu	Ile	Leu	Ala	Leu	Val	Gly	Ala	Ala	Val	Ala	His
1				5					10					15	

His	His	His	His	His	Gly	Asp	Asp	Asp	Asp	Lys	Gln	Glu	Ala	Val	Ile
			20					25					30		

Pro	Gly	Cys	His	Leu	His	Pro	Phe	Asn	Val	Thr	Val	Arg	Ser	Asp	Arg
		35					40					45			

Gln	Gly	Thr	Cys	Gln	Gly	Ser	His	Val	Ala	Gln	Ala	Cys	Val	Gly	His
	50					55					60				

Cys	Glu	Ser	Ser	Ala	Phe	Pro	Ser	Arg	Tyr	Ser	Val	Leu	Val	Ala	Ser
65					70					75					80

Gly	Tyr	Arg	His	Asn	Ile	Thr	Ser	Val	Ser	Gln	Cys	Cys	Thr	Ile	Ser
			85					90						95	

Gly	Leu	Lys	Lys	Val	Lys	Val	Gln	Leu	Gln	Cys	Val	Gly	Ser	Arg	Arg
			100					105					110		

Glu	Glu	Leu	Glu	Ile	Phe	Thr	Ala	Arg	Ala	Cys	Gln	Cys	Asp	Met	Cys
		115					120					125			

Arg	Leu	Ser	Arg	Tyr
	130			